HDM-C6VWIP Video-Over-IP Matrix System

Control4 Driver User Guide

Version 1.0

Driver developed by

Introduction

This driver has been designed to provide two-way control of an Avenview HDM-C6VWIP HDMI-over-IP video matrix system, via TCP/IP.

This driver has been written and tested using the following products:

- Avenview HDM-C6VWIP Controller (System FW v2.1.5(v1.4.1))
- Avenview HDM-C6VWIP-S
- Avenview HDM-C6VWIP-R
- Cisco SG500-52P

Driver release version: 1.0

Avenview Configuration

It is recommended that the Avenview HDM-C6VWIP system be installed, configured and tested by a suitably qualified engineer, according to Avenview documentation, prior to integration with this driver. Some additional, specific configuration is required to ensure correct operation of the driver:

The Avenview HDM-C6VWIP Control Interface Telnet Client must be configured with a static IP address in the same range as the Control4 processor in order for the two to communicate:

1. Enter the IP address of the HND-IP-CTL into the web browser of a computer connected to the same network, to display the Web Interface (the default IP address is "192.168.11.243" and default password is "admin").
2. Choose the **CTL Settings** tab.
3. Enter the static IP address information into the **IP Setup [Telnet client and browser communication]** section, and click **Apply**.

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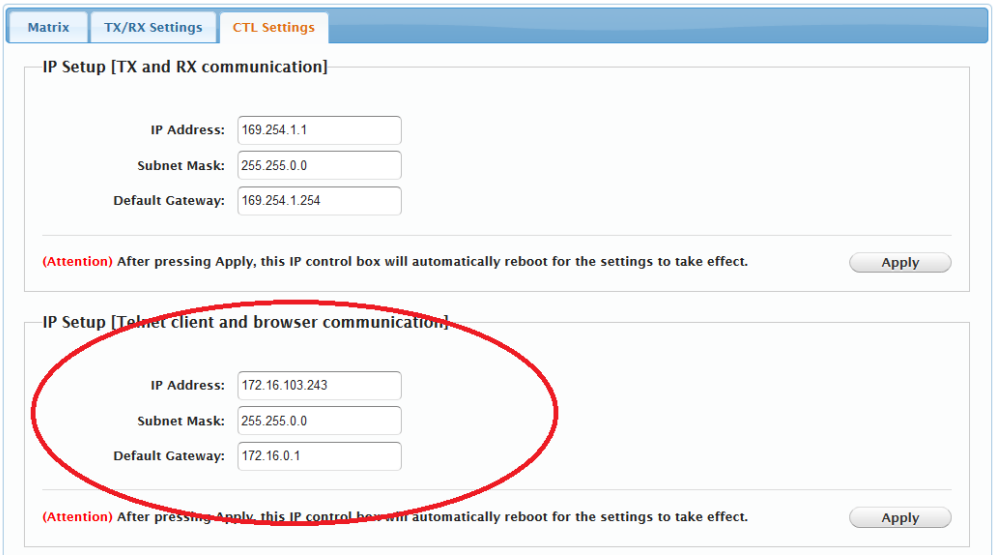
Matrix
TX/RX Settings
CTL Settings
IP Setup [TX and RX communication]
IP Address: 169.254.1.1
Subnet Mask: 255.255.0.0
Default Gateway: 169.254.1.254
(Attention) After pressing Apply, this IP control box will automatically reboot for the settings to take effect.
Apply
IP Setup [Telnet client and browser communication]
IP Address: 172.16.103.243
Subnet Mask: 255.255.0.0
Default Gateway: 172.16.0.1
(Attention) After pressing Apply, this IP control box will automatically reboot for the settings to take effect.
Apply

Figure 1: Avenview CTL Settings

It is additionally necessary to configure an **Alias** (name) for each transmitter (input) device and each receiver (output) device. Access the web interface as described above, this time choosing the **TX/RX Settings** tab. Note that the current device names are displayed in **Device Settings** at the top of the page. Select a device to display its current configuration:

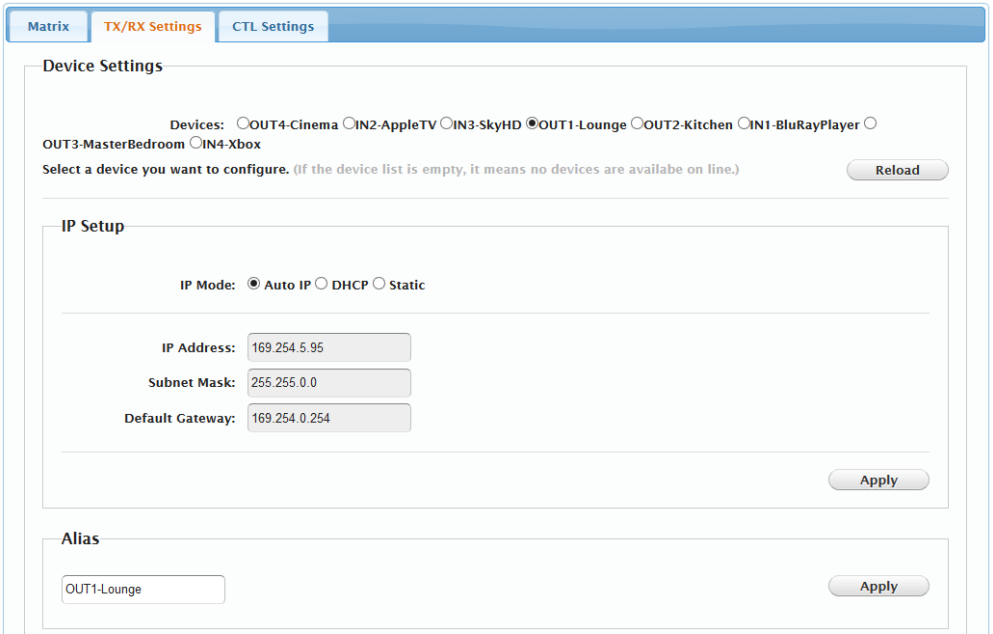

Figure 2: Avenview TX/RX Settings

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You can edit the device name in the **Alias** field, clicking Apply when done. Note that the name must comply with the following conventions:

For Transmitter (input) devices: *IN[number]-[name]*
For Receiver (output) devices: *OUT[number]-[name]*

It is important that each name begins with "IN" or "OUT", which is then followed by the input or output number. You can then optionally add a hyphen (-) followed by an appropriate description for the device (note that no spaces are allowed). For example, in the screenshot above, the first input is named *IN1-BluRayPlayer,* equally valid is just *IN1.*

Driver Installation & Configuration

Copy the .c4i files from the zip package to My Documents\Control4\Driver and then open Composer. The drivers can be found under:

Device Type: A/V Switch, **Manufacturer:** Avenview, **Model:** *nxm* HDM-C6VWIP

where "*nxm*" is the number of inputs and outputs. Choose the version that most closely matches your needs. The drivers are all effectively the same; differently sized versions are provided to avoid cluttering your project with unwanted inputs and outputs.

The installed driver will appear as **Avenview *nxm* HDM-C6VWIP** as below:

Figure 3: Installed Driver

To configure the driver's access to the Avenview system, go to the **Connections** section and set up your input and output connections as usual. There are also serial connections representing the serial ports on the transmitters and receivers; these can be linked to any equipment that is going to be controlled via the unit's serial port. Then go to the **Network** tab and select the driver from the list. Add the IP address of your Avenview Control Interface. The driver should now automatically connect to the Avenview system and initialize itself.

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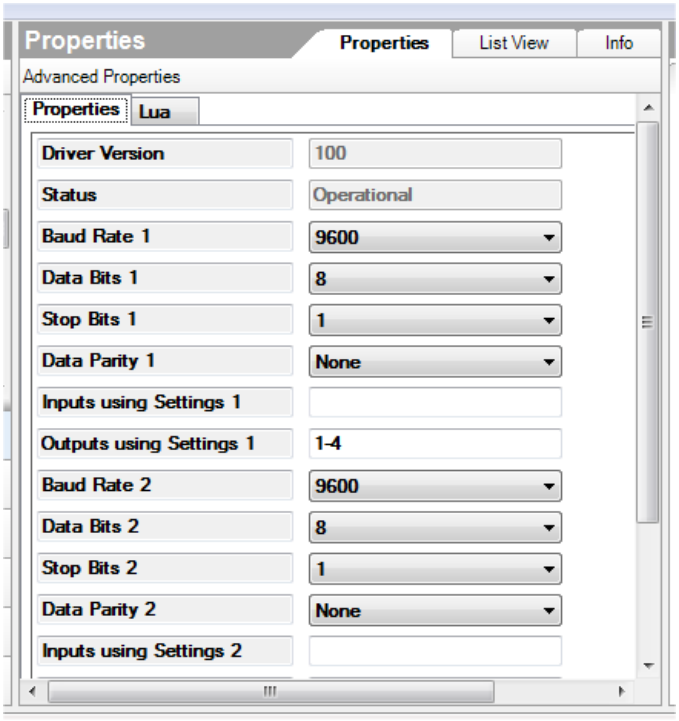

Figure 4: Driver Properties

The driver features a number of properties that report status or control configuration. Note that the Serial Port Settings Types provide a way of defining the settings for a serial port, which can then be applied to the serial ports of multiple inputs and outputs.

Property	**Description**
Driver version	The version of the driver. Should be **100** for version 1.00.
Status	Should be **Operational** when actually in communication with the Avenview system. Any other status indicates a connection problem of some sort.
Serial Port Settings type *x*	**Baud Rate x** - the baud rate in bits per second. **Data Bits x** – the number of data bits. **Stop Bits x** – the number of stop bits. **Data Parity x** – the parity bit setting. **Inputs using Settings x**, **Outputs using Settings x** – the transmitter and receiver units that should have their serial port configured to use these settings. Inputs and outputs can be specified as a comma separated list of numbers or number ranges, e.g. **1,2-5,7**
Debug Settings	**Debug Mode** – support use only **Debug Subsystems** – support use only **Debug Level** – support use only

Table 1: Driver Properties

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Driver Commands

The driver features a number of device-specific commands used for control. Wherever a list of inputs or outputs is required, rhese can be comma separated (e.g. **1,2,3,4**) or defined as a range (e.g. **1-4**), or a combination of the two (e.g. **1,2-4**).

Command	Description
Save Preset	Save all or part of the current input to output switching configuration as a preset. **Preset** Choose a preset number. **Outputs** The output numbers whose configuration should be saved. An empty list will save everything.
Recall Preset	Restore the input to output switching configuration saved as a preset. **Preset** Choose a preset number to recall.
Switch Multiple Outputs	Switches all listed ouputs to the given input. **Input** input to show. **Outputs** list of outputs to switch to that input.
Tile Multiple Inputs On Output	Tiles the list of inputs on the given output. **Inputs** inputs to show. **Output** output on which to show the inputs.
Create Video Wall	Define a video wall using a single host (input). **Wall Name** Choose a wall name (this is important as other commands refer to this name). **Size** The video wall screen configuration expressed as ***w,h*** or ***wxh***. *F*or example **2x2** creates a 2 x 2 (4 screen) video wall. **Input** The input to show on the wall. **Outputs** The output numbers used to create the video wall. This field must contain a number of outputs equal to the amount defined in the **Size** field.
Switch Video Wall	Switch a video wall to show a new input. **Wall Name** The wall to switch, defined previously with **Create Video Wall**. **Input** The new input to shown on the wall.
Set Bezel Gap	Define the size of the TV frame (video edge) to correct for large bezel screens in video wall mode. **Wall Name** The wall to configure, defined previously with **Create Video Wall**. **Screen Outside Width, Height** – the overall size of the television in mm (e.g. *"600,550"*). **Screen Image Width, Height** – the size of the actual screen in mm (e.g. *"550,500"*).
Set Picture Parameters	Define picture adjustment parameters for a video wall. Setting any parameter to zero leaves it unadjusted. Refer to Avenview documentation. **Wall Name** The wall to configure, defined previously with **Create Video Wall**. **Pixel Shift Right, Down** – Number of pixels to shift right and

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	down. Can be negative for left and up. Must be a multiple of 8 (will be rounded to the nearest if not). **Horizontal/Vertical Overscale Factor** – Number of columns and rows by which to overscale the image. **Tearing Delay** – the tearing delay to apply **Outputs** – which outputs should use the given values
Create Multi-Host Video Wall	Define a video wall using multiple hosts (inputs). **Wall Name** Choose a wall name (this is important as other commands refer to this name). **Size** The video wall screen configuration expressed as ***w,h*** or ***wxh***. *F*or example **2x2** creates a 2 x 2 (4 screen) video wall. **Inputs** The inputs to show on the wall. There must be one per row. **Outputs** The output numbers used to create the video wall. This field must contain a number of outputs equal to the amount defined in the **Size** field.
Switch Multi-Host Video Wall	Switch a multi-host video wall to show new inputs. **Wall Name** The wall to switch, defined previously with **Create Multi-Host Video Wall**. **Inputs** The new inputs to shown on the wall. There must be one per row.
Reset Input	Reset a transmitter (input), e.g. to clear a fault. **Input** The input to reset.
RS232 Command String	Send a string to one or more serial ports. **Note that due to current protocol limitations only human readable text not including " (double quote) or & (ampersand) can be sent.** The serial settings used will be taken from the driver properties corresponding to the given inputs and outputs. **Inputs** list of input serial ports to which to send the string. **Outputs** list of output serial ports to which to send the string. **CR Termination** whether to terminate the string with a carriage return. **Command** the string to send.
RS232 Custom Command String	Send a string to one or more serial ports. **Note that due to current protocol limitations only human readable text not including " (double quote) or & (ampersand) can be sent.** Custom serial settings are specified. **Inputs** list of input serial ports to which to send the string. **Outputs** list of output serial ports to which to send the string. **Serial Settings** the serial settings to use in the form *<baud>-<data bits><parity><stop bits>* e.g. 9600-8n1. **CR Termination** whether to terminate the string with a carriage return. **Command** the string to send.

Table 2: Driver Commands

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Driver Variables

The driver features a number of variables, providing feedback from the Avenview system.

Variable	Description
IN*xxx*_Name	The name defined for a particular input in the Avenview system.
OUT*xxx*_Name	The name defined for a particular output in the Avenview system.

Table 3: Driver Variables

The names are taken from the part after the dash in the codename (see the above section entitled "Avenview Configuration" for more information).

Troubleshooting

The driver cannot control the Avenview system

- Confirm the Ethernet switch used by the Avenview system is correctly uplinked to the same network as the Control4 processor.
- Confirm that the correct IP address is defined in the Network Connections for the Avenview driver.

Switching commands are failing

- Ensure you have named the devices correctly in the Avenview system. Read the section of this guide entitled "Avenview Configuration" for more information.

An input is distorted, or is displaying only part of the complete image

- Try sending the **Reset Input** command to the affected input.

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